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scription, and the number of the paper in which they are described, as entered in the bibliography. The new names number nearly 1000, and are arranged alphabetically by genera.

Part V gives a tabular alphabetic 'List of Species figured' (pp. 105-119), over 1000 in all, with the place where figured, etc.

A detailed index (forming Part VI) to the principal subjects in the works and papers listed in parts I and II completes this admirably planned and carefully executed bibliography of a most exceptionally extended series of works and papers.

Mr. Sclater's papers here catalogued relate by no means exclusively to American birds, for they include many papers on the birds of the Old World, and on general subjects in ornithology, and a very large number treating of mammals, and include figures of many rare species from the Gardens of the Zoölogical Society. The Bibliography will thus be of great service to mammalogists, as well as of immense utility to students of American birds. An excellent portrait of Mr. Sclater is given as a frontispiece to the volume. — J. A. A.

Newton's Dictionary of Birds: Part IV.¹ — This noble work must be already well-known, by name at least, to all readers of 'The Auk,' for the three previous Parts have been duly noticed as they successively appeared. Its completion with Part IV gives occasion for congratulations. But whether these be now in order for its distinguished author alone is another matter. We congratulate him upon this successful accomplishment of long-cherished designs; upon this fruitage of well-laid plans for the promotion of the science he adorns; upon well-earned respite from arduous labors, at least for a time. Yet is every ornithologist, be he the

¹ Part I, A-Ga, pp. i-viii, map, pp. 1-304, 1893. Part II, Ga-Moa, title-leaf and pp. 305-576, 1893. Part III, Moa-Sheathbill, title-leaf and pp. 577-832, 1894. Part IV, Sheathbill-Zygodactyli, title-leaf (verso instructions to binder) and pp. 833-1088 + Half-title, Title, Dedication, Preface, Notanda et Corrigenda = pp. i-xii + Introduction = pp. 1-124, 1896.

For previous notices, see Auk, July, 1893, p. 308; Oct. 1893, pp. 357-360; Jan. 1894, pp. 56-60; Apr. 1895, pp. 169, 170. The permanent title and collation are:

A | Dictionary of Birds | by | Alfred Newton | assisted by | Hans Gadow | with contributions from | Richard Lydekker | Charles S. Roy | . . . and | . . . London | Adam and Charles Black | 1893-1896 | 1 vol. 8vo. pp. i-xii (Half-title, Title, Dedication, Preface, Notanda et corrigenda), pp. 1-124 (Introduction and Index thereto), pp. i-viii (Title to Part I, Note, etc.), 1-304 (Alphabet), Title to Part II and pp. 305-576 (Alphabet, with map opp. p. 311), Title to Part III and pp. 577-832. (Alphabet), Title to Part IV and pp. 833-1058 (Alphabet), pp. 1059-1088 (Index); unnumbered figg. in text. Printed by R. & R. Clark, limited, Edinburgh. Orig. Note to Part I dated March, 1893. Preface dated Nov. 1896. Publication completed Nov. or Dec. 1896.

timid tyro or the confident master of his craft, to be congratulated, not the less but rather the more heartily than the author, upon the possession of such a hitherto unexampled work as Professor Newton's 'Dictionary'; for it is far and away the best book ever written about birds.

Lest this judgment be imputed to the personal prejudice of an almost life-long friend of the author, and regarded as panegyric rather than sober statement, it behoves us to define what we mean by that elastic superlative—"the best." In weighing the merits of any considerable performance, the principle of the greatest good to the greatest number comes up first. A work may be of the greatest excellence in a particular way, or for a special purpose; in which case the good it can possibly do is restricted accordingly—like that mathematical treatise which was said to be so learned that only its author and one other person could have understood it, had the latter not been ignorant of the language in which it was composed. This is an instance of the greatest good to the fewest possible number; it is the opposite extreme of a Newton's 'Dictionary'—a work by which no one who can read English can fail to profit, so be it he have intelligence enough to know what he wants, or what, at any rate, he ought to want to know. It is upon some considerable acquaintance with the literature of ornithology, acquired in the course of forty years, that we declare the present to be the best 'all-round' book we have ever seen; the one that best answers the purposes of the most readers; the one which conveys the most information per thousand *ems*; the one which is freest from misstatements of any sort; the one which is most cautious and conservative in expression of opinions where opinions may reasonably differ; the one which is the most keenly critical, yet most eminently just in rendering adverse decisions; the one which is composed in the plainest and purest English, if we except some of the maturest writings of Huxley—"that so great a master of the art of exposition"; the one which is the most erudite and the least pedantic; the one of the most distinctively academic flavor, yet most kindly regardful of the limitations of a *profanum vulgus*. It is a wise, a courteous, a dignified book; such a fruit of ripe scholarship as almost justifies the Fabian policy Professor Newton is well known to have seldom failed to pursue in cultivating the acquaintance of his printers. One of the ends, among many, which crown this work is the justification of making haste slowly; and another is the perpetual injunction which this 'Dictionary' serves upon a generation of ornithological scientists and sciologists, among neither of which classes of writers is cocksureness a quality to be sought in vain. It is far too masterly a work to be acceptable in all quarters, for various reasons; some of which reasons being, that it accentuates the difference between workmanship and amateurishness; administers a wholesome "corrective to the erroneous impressions commonly conveyed by sciologists posing as instructors"; sets up a standard of excellence which many writers may shrewdly despair of approaching; and thus burns bridges over the great gulf fixed by natural selection between the fit and the unfit to handle the pen.

Among various merits which a literary performance may possess that of sheer utility is surely not to be despised. The present reviewer, for example, is far enough along in the business of writing about birds to have entertained grave doubts concerning his own omniscience or infallibility, and to be very much obliged indeed for information that he lacks. During the past few years he has made much ornithological manuscript, the outcome of which at present concerns nobody but himself. During a like period, one or more Parts of this 'Dictionary' has lain or have lain upon his desk, instead of standing upon his shelves; and he has acquired the habit of saying to himself, upon taking up the pen of a morning, before shedding ink upon any topic of the day, "I wonder what Prof. Newton has to say about that?" Ten to one, he has found something he wanted, if it were only a reliable date, or a right spelling, or a name he never knew before, or an exact definition, or a sound etymology, or bit of early history — or whatnot in the way of positive, reliable information. Ten to one, again, in looking for something he wanted, he found something else he should have wanted had he fully realized his own obtuseness; and one thing led to another, till he had been reading the 'Dictionary' all the morning instead of minding his own business. He therefore warns all users of the 'Dictionary' that his case is not likely to be singular! But he feels also quite certain that some considerable time of every intending writer upon birds can in nowise be more pleasantly or more profitably spent than in informing himself of what Professor Newton has already set down concerning them; and if it be happily true that "the written word remaineth" in the mind of the would-be writer, there can be no reasonable doubt that his own performance will be improved accordingly. This is a test of usefulness to which only a thoroughly good book can be put without detriment to its reputation; yet this 'Dictionary's' credit will increase with every such trial to which it may be subjected.

The 'shortcomings' of the 'Dictionary' are innumerable, being no fewer than the number of all the names which exist in ornithology, but which are not entered alphabetically in this work. They are the lengths to which the author did not see fit to go, and as such are best dismissed in his own words (Preface, pp. vii, viii):

"It has been my object throughout to compress into the smallest compass the information intended to be conveyed. It would have been easier to double the bulk of the work, but the limits of a single volume are already strained, and to extend it to a second would in several ways destroy such usefulness as it may possess. . . . It will be obvious to nearly every one that the number of names of Birds included in a work of this kind might be increased almost indefinitely. Whether it will ever be possible for me to supply these additions, and others, must depend on many things, and not least on the reception accorded by the public to the present volume."

As touching this contingency, with its implicit promise, we may express our gratification at seeing the 'Dictionary' advertised for sale in

this country by the Macmillan Company of New York; and repeat our already expressed opinion that it is the best book ever written about birds. No ornithologist, no person who desires or intends to become one, can afford to be without it. We wish that we could record our conviction that its reception by the public will be according to its merits; but that seems improbable, for mediocrity has no means of measuring pre-excellence.

Recognizing fully, as we do, the inexorable limits of a single volume, we have no disposition to find fault with anything that this 'Dictionary' does not contain; and even if the principles upon which Professor Newton has made up his alphabet are not always clear to us, we are quite ready to believe them judicious, or best for the end he had in view. We are thankful for all that is implied by the admission of our Koel or our Paauw, though we may have to look elsewhere for the difference, if any there be, between a Thrush-Titmouse and a Titmouse-Thrush. It is enough to add that we are not here concerned with a Giebel, but with a Newton; and long-protracted lexicographic work of our own has satisfied us that the author need not have recorded any reason for moulding the main body of his treatise dictionary-wise — not even so good a reason as the following (prefatory Note, p. vii):

"I would say that the alphabetical order has been deliberately adopted in preference to the taxonomic because I entertain grave doubt of the validity of any systematic arrangement as yet put forth, some of the later attempts being in my opinion among the most fallacious, and a good deal worse than those they are intended to supersede."

Considering the attention already bestowed upon Parts I-III of the 'Dictionary' by a competent critic ("J. A. A."), whose final office we here usurp at his own instance, and agreeing cordially with the tenor of his reviews, we may confine ourselves in the remarks which follow to consideration of Part IV, which carries the alphabet from *Sheathbill* to *Zygodactyli* — why not to *Zygoma* being explicable as above. It would be unnecessary, even were it reasonably practicable within the limits of a review, to scrutinize the list of entries in detail; especially as there is much we wish to say regarding the 'Introduction'. Suffice it to observe no falling off, whether in fullness, accuracy, or elegance of treatment, from the high standard of excellence set in the beginning, but rather the reverse; for, as is usual in similar cases — we cannot say, in such cases, because this one stands alone — the work *crescit eundo*, and many of its most notable articles fall in the latter part of the alphabet. Opening Part IV at random, we happen upon *Toucan*, p. 976, followed by *Touraco*, pp. 979-982, both being among the longer articles. These two words have histories which go back in the one case to 1668 at least, in the other beyond 1743; the birds themselves have been known still longer under other names; and each belongs to a notable family. Their treatment is a fair sample of Professor Newton's conspicuous ability in so handling subjects, both historically and ornithologically, as to convey the most

information, of the sort desired by most persons, in the smallest compass. Next comes *Towhee*, a minor article, on a part of one page, with an explanation of the word, identification of the bird, a figure of its head from Swainson, remarks on the species of *Pipilo*, references with the usual small capitals to FINCH, BUNTING and CATBIRD (which the cry of some species calls up), and the synonyms of Chewink and Ground-Robin (though we miss 'Joree,' a less known nickname of *P. erythrophthalmus*). Next comes *Trachea*, a 2½-page article by Dr. Gadow defining that organ, and noting its main modifications in many different groups of birds, with cross-references to *Larynx* and *Syrinx*. Next happens to come *Tracheophones*; we give it as a model of curt, formal definition, in a case where the author has nothing further to say:

"TRACHEOPHONES (by some written *Tracheophonæ* or *Tracheophoni*) Johannes Müller's name (*Abhandl. k. Akad. Berlin, Phys. Kl.* 1847, p. 367) for the second of his three groups of PASSERINI, having the trachea furnished with one or two pairs of vocal muscles, and those lateral (*cf.* SYRINX, p. 940)."

These examples must suffice. To go through any considerable portion of this 'Dictionary', applauding the author's strong and clear statements of fact, would be futile, after what has been said; and to pick up for discussion or criticism his expressions of opinion (which he sedulously distinguishes from statements of fact) in cases where they may differ from our own, or be open to revision, would be fatuous; for that would be to write another, and presumably a much inferior, treatise upon the same subjects. Nor have we any intention, in reviewing a work the equal of which for accuracy we have not seen before in any instance of similar magnitude, of pricking pin-holes; that may be left to literary chiffonniers whose tastes differ from our own, and who have possibly time to waste. We finish this very inadequate sampling of the alphabetical entries by calling attention to the Index with which the work concludes — a valuable feature, which theoretically should be superfluous in a 'Dictionary,' but which in this case goes far toward obviating an inconvenience of which some may justly complain — that resulting from comparative fewness of the entry-words. Thus, for examples: *Tubinares* is entered, with a 4-line definition, including cross-references to *Albatross* and *Petrel*; but the Index gives under *Tubinares* 32 places where something may be found about the birds which come under that head. *Upupa* is not entered, as Latin generic names, when not English also, are not within the scope of the work for formal entry; but under *Upupa* in the Index are 24 references to pages where birds of that genus are treated in the text.

The most important article in the whole work is the Introduction, now supplied with Part IV, of course to be bound in its proper place, as above indicated. This, with the Index to itself, runs pp. 1-124 (slanting Arabic figures, as if italics, to distinguish this matter from pp. 1-1088 of main text). It is difficult to characterize this piece of work justly without

using words which may seem to be extravagantly laudatory. Perhaps we may say simply, by way of conveying our appreciation of its real merit, that only one ornithologist who has ever lived, or who is now living, could have written it. In purport and scope, it is a critical review of ornithology, from the start to such degree of finish as the science has acquired today; in substance, it is a summary bibliography of those works upon which the foundations of the science rest most securely, and of those which have most contributed to its permanent superstructure — 'each after its kind' being set forth in chronological order, in proper historical perspective, with due regard for symmetrical proportion; in form, by which we mean its literary style, it is a model to be admired by all but successfully imitated by none. Professor Newton's ripe scholarship has perhaps never been more adequately shown than on this occasion, when only a master of the art of exposition, who combined in himself the qualities of a great ornithologist and a great bibliographer, could have brought his forces to bear upon the business in hand with the requisite lucidity and precision. The literature of ornithology is so huge — indeed, Professor Newton speaks of the science as in danger of being smothered thereunder — that one might well be dismayed in face of any undertaking to set it forth intelligibly, with hardly more than a hundred pages at command in which to accentuate its strong points and stigmatize its weak or futile ones, with even-handed justice throughout — so almost incessant, in this case, must have been the temptation to mercy. For performances whose chief or only merit may be found in those good intentions with which a certain mythical locality is said to be paved, Professor Newton's good-nature is unfailing, as his patience is unwearied. But for the sciolists and shams of whatever low degree, for the posers and plagiarists of whatever high pretensions, for any writers whose good faith may be questioned or whose good opinion of themselves is vanity — *væ victis!* The schoolmaster is abroad, and his ferule is felt to be a stinging one. For pith and pungency Professor Newton's criticisms compare not unfavorably with Huxley's. They are equally pointed and polished; they are passed with equal courtesy and dignity; they are generally tempered with some saving clause, whether to be passed to the credit of the critic's charity or of his ingenuity we cannot always say; but he seldom presents the chastening rod in one hand without holding out a box of ointment in the other. It reminds us of Kamadeva, the Hindu Eros — him of the bee-strung bow, whose keenest shafts were tipped with roses.

In so phrasing his parable the present reviewer feels sure he voices no sentiments unshared by others of his own craft. Referring to the article 'Ornithology' in the Ninth Edition of the 'Encyclopædia Britannica' — it is well known that the present 'Dictionary' is founded upon the series of articles contributed by Professor Newton to that publication, modified into something like continuity, and further built up by the intercalation of a much greater number, to serve the same end — a distinguished leader

of our science lately opened an address he delivered to the Congress at Budapest in the following words, in part :

"From the time of our great master, Linnæus, and even from that of the patriarchs of Science, Professor Newton traces the gradual development of Ornithology ; and not only do I find little to add to this masterly treatise, but my very criticisms are there forestalled, and I offer this tribute to the genius of my talented countryman, not without a slight feeling of envy at the vigorous English in which the memoir is composed, and the truly wonderful way in which his facts are marshalled and arranged. With some regret, therefore, I have laid aside my exposition of the various schemes of Classification which I had intended to place before you, because I feel that I could not say anything which Professor Newton has not said ten times better ; and although his article may not be 'milk for babes,' by the earnest devotee of Ornithology it will be read with intense interest."

To whatever school, 'old' or 'new,' Dr. Sharpe may be held to belong, this shows that our eminent colleague also knows the good wine which needs no bush ; and we should not protract the present review were all as well qualified to pass judgment as he is, or were Professor Newton's 'Dictionary' as well known to the rank and file of American ornithologists as we trust it may speedily become — albeit the luxury of praising that which may be justly praised without stint is ours in the present instance, and one which we propose to enjoy yet further, before we put a period to its expression. We wish to show, if possible, how Professor Newton has accomplished the apparently impossible feat of profitably reviewing ornithology as a whole in 120 octavo pages. He first notices pretty thoroughly the chief ornithological works begun if not completed before the beginning of the present century — not an extremely difficult task, though it consumes one-sixth of his allowable space (pp. 1-21). With the present century began — or began to multiply — three different classes of works, namely : Faunæ, Monographs, and publications of scientific societies. With the last of these he cannot undertake to deal, "except they be of prime importance." The monographs come next for treatment, including great works on special groups of birds, generally illustrated with plates to which the text is more or less a secondary consideration. These are disposed of on pp. 21-28. Attention is then turned to general and particularly to systematic works in which plates, if they exist at all, form but an accessory to the text — works such as those of Illiger, Vieillot, Temminck, and so on to Gray and Giebel. In this connection Professor Newton does not hesitate to kill the circle-squarers — Macleay, Vigors, and Swainson — over again ; he handles them as one might unruly children caught making mischief, and we cannot refrain from giving a quotation (pp. 34, 35) :

"True it is that there were not wanting . . . men in these [British] islands whose common sense refused to accept the metaphorical doctrine and mystical jargon of the Quinarians, but so strenuously and persist-

ently had the latter asserted their infallibility, and so vigorously had they assailed any who ventured to doubt it, that most peaceable ornithologists found it best to bend to the furious blast, and in some sort to acquiesce at least in the phraseology of the self-styled interpreters of Creative Will."

That is an example of the chastening rod to which allusion has been made. With it comes the unfailing box of ointment we also mentioned:

"But, while thus lamenting this unfortunate perversion into a mistaken channel of ornithological energy, we must not over-blame those who caused it. Macleay indeed never pretended to a high position in this branch of science, his tastes lying in the direction of Entomology; but few of their countrymen knew more of Birds than did Swainson and Vigors; and, while the latter, as editor for many years of the *Zoological Journal*, and the first Secretary of the Zoological Society, has especial claims to the regard of all zoologists, so the former's indefatigable pursuit of Natural History, and conscientious labour in its behalf — among other ways by means of his graceful pencil — deserve to be remembered as a set-off against the injury he unwittingly caused."

A rapid survey of Faunal works is next taken, carrying the subject to p. 45. This is necessarily limited "to those countries alone which form the homes of English people, or are commonly visited by them in ordinary travel." In this retrospect American Faunists will find themselves at full proportionate length.

But the main burden of the Introduction, carried almost to its end, is the review of modern systematic Ornithology, "to trace the rise of the present more advanced school of ornithologists whose labours, preliminary as we must still regard them to be, yet give signs of far greater promise" (p. 45). A difficult task is here self-imposed at the start; it is one of peculiar delicacy toward the finish, when living contemporaries, often but not always friends, sometimes pupils, must be brought to book to answer for their performances. Professor Newton's idea is, to set forth those works and those persons he considers to have rendered the most solid service in constructing an enduring morphological *Systema Avium* upon the principle of genetic relationships, in accordance with accepted theories or proven facts of evolution. We can possibly indicate by a bare list of names the course which Prof. Newton's treatment of this theme takes. The leading names are: Nitzsch — Étienne Geoffroy St.-Hilaire — Tiedemann — Nitzsch — Merrem — De Blainville — Nitzsch — Nitzsch apud Naumann — L'Herminier — Nitzsch — Berthold — Cuvier — Gloger — Sundevall — L'Herminier — Macgillivray — Owen — Blyth — J. F. Brandt — Keyserling and Blasius — Nitzsch ed. Burmeister — Kessler — Macgillivray apud Audubon — J. Müller — Cornay — Cabanis — Bonaparte — Hogg — E. Newman — Gervais — Blanchard — Eyton — A. B. Meyer — Des Murs — Darwin and Wallace — Parker — A. Wagner — Lilljeborg — Huxley — A. Milne-Edwards — Marsh — Sundevall — Reichenow — Garrod and Forbes — Murie — Wallace — Sclater — Stejneger — Fürbringer —

Gadow — but here we must put a period, at p. 108 of the Introduction. Most of these names will convey their own moral to every well-informed ornithologist, as readily as Merrem calls to mind *Ratitæ* and *Carinatæ*, or Nitzsch brings up pterylography. But not all of them stand in the pantheon — Berthold, for example, is dismissed with a sigh of relief, and some others with even less emotion. In general, the space devoted to each indicates fairly their weight in the scales of Professor Newton's judgment, for he is not here setting up small authors to be cast down, but great ones to be attentively regarded in the light of their respective contributions to the edifice of the future; and he must be indeed an exceptionally well-informed ornithologist who has not much to learn of the exact quantity and quality of these contributions from this masterly exposition. We have spoken of its great difficulty and extreme delicacy in some cases; we testify to its equal discernment and perfect fairness; and offer two cases in evidence.

Huxley is treated in five pages (pp. 82-86), chiefly devoted to his paper of 1867, with this conclusion, as we think agreeable with a consensus of expert opinion:

" . . . That the palatal structure must be taken into consideration by taxonomers as affording hints of some utility there could no longer be a doubt; but the present writer is inclined to think that the characters drawn thence owe more of their worth to the extraordinary perspicuity with which they were presented by Huxley than to their own intrinsic value, and that if the same power had been employed to elucidate in the same way other parts of the skeleton — say the bones of the sternal apparatus or even of the pelvic girdle — either set could have been made to appear quite as instructive and perhaps more so. Adventitious value would therefore seem to have been acquired by the bones of the palate through the fact that so great a master of the art of exposition selected them as fitting examples upon which to exercise his skill."

Sundevall's case is perhaps the most remarkable among those Professor Newton is called upon to weigh. *Mutatis mutandis*, it presents to our eye some likeness to that of Macgillivray. The latter was an excellent ornithotomist to whom Professor Newton gives well-deserved praise for his observations, but who utterly failed to interpret his anatomical facts to any useful taxonomic purpose, his classification being nugatory. Sundevall was a man of vast and varied acquirements, the opposite of Macgillivray in that he was a 'skin man' *sang pur*, whose final achievement in classification was no better than Macgillivray's, if as good. But let us hear Professor Newton on this score (p. 90):

"The only use of dwelling upon these imperfections [to wit, of Sundevall's *Tentamen*] here is the hope that thereby students of Ornithology may be induced to abandon the belief in the efficacy of external characters as a sole means of classification, and, seeing how unmanageable they become unless checked by internal characters, be persuaded of the futility of any attempt to form an arrangement without that solid foundation which can

only be obtained by a knowledge of anatomy. Where Sundevall failed no one else is likely to succeed; for he was a man gifted with intelligence of a rare order, a man of cultivation and learning, one who had devoted his whole life to science, who had travelled much, studied much and reflected much, a man whose acquaintance with the literature of his subject probably exceeded that of any of his contemporaries, and a man whose linguistic attainments rendered him the envy of his many friends. Yet what should have been the crowning work of his long life is one that all who respected him, and that comprehends all who knew him, must regret, though apart from his systematic treatment his handiwork is admirable."

Most of Professor Newton's criticism in this part of his work is constructive — that is to say, it is concerned with the building up of the good, not the pulling down of what he considers bad; for bad work or bad workers hardly appear here, unless it be to be brushed aside in a word. Yet it is perhaps but fair to place in juxtaposition with the above an example of unmitigated severity (p. 44):

"By every well-informed ornithologist the *History of British Birds* of Mr. Morris has long been known to possess no authority; but about Mr. Seebohm's volumes with the same title there is much difference of opinion, some holding them in high esteem. The greater part of their text, when it is correct, will be found on examination to be a paraphrase of what others had already written, for even the information given on the author's personal experience, which was doubtless considerable, extends little or no further. But all this is kept studiously out of sight, and the whole is so skilfully dressed as to make the stalest observations seem novel — a merit, I am assured, in some eyes. Of downright errors and wild conjectures there are enough, and they are confidently asserted with the misuse of language and absence of reasoning power that mark all the author's writings, though the air of scientific treatment assumed throughout has deluded many an unwary reader."

There is of course no balm in Gilead for a wound like that; though in another place (p. 734 of *Alphabet*, note), where Professor Newton castigates poor Seebohm with less acerbity for his fantastic sciolism in the taxonomy of *Limicolæ* the saving clause comes: "Yet the many beautiful figures given by Mr. Seebohm will always make his work acceptable to ornithologists of all schools, despite his numerous vagaries."

It were needless to add, after what has preceded, that Professor Newton is fully committed to morphological taxonomy on evolutionary principles. We should hardly think any different view could be taken by a competent scientist of the present day. The assumed distinction between external and internal characters is absurd; they are parts of one structural integer, and if the insides of a bird prove more valuable for classificatory purposes than its outside, it is simply because there are more of the former than there is of the latter available for examination and interpretation. Most of the authors above listed will immediately be seen to have been anatomists; and we note with pleasure Professor

Newton's insistence upon the importance of taking a bird's whole structure in consideration in the attempt to fix its position in a natural genetic classification. Such insistence is well exemplified in the care Professor Newton takes to place in their proper light Professor Fürbringer's recent remarkable contributions to systematic ornithology (pp. 100-103), together with those of Dr. Gadow — neither of whom is so well known, in this country, as each deserves to be.

The remainder of the Introduction is devoted to what may be deemed the present outlook for the taxonomy of the future. Those who did not know Professor Newton's extreme caution and conservatism might perhaps expect to find him propounding a system of his own; but such will look in vain. We have carefully guarded statements on many points which seem to have been established; but beyond these Professor Newton is unprepared to go. Audacity and even temerity have their uses, on some occasions, but the construction of an Avian phylum is not among the opportunities for a profitable display of such qualities — tempting and alluring though the prospect may seem to some ardent minds. The geological record remains to this day altogether too incomplete. No one has yet flown to the Jura except on the wings of the imagination; and until a safer mode of progression in that direction be opened, with a plentiful supply of the still missing links for stepping-stones, the natural classification of birds will remain a vision of Utopia.

We should not close this tribute to the great work of a great ornithologist without recognition of those by whom he has been so ably aided in its execution — in ornithotomy by Dr. Gadow, whose contributions are conspicuous throughout the volume; in palæornithology by Mr. Lydekker; in other lines by Professor Roy; certain other contributions we do not see fit to name being fortunately too few and too insignificant to appreciably detract from the standard of excellence elsewhere maintained throughout the 'Dictionary.' — E. C.

Bates's 'The Game Birds of North America.'¹ — Mr. Bates's definition of a game bird is the following: "A game bird is one which is suitable for food and which is habitually pursued for sport, demanding skill and dexterity for its capture. I take it for granted that every sportsman is a gentleman, and would not slaughter more game than he could find a use for, and that he would not descend to the level of the pot-hunter, who will kill Robins and other insectivorous birds simply because they are fit to eat." The book is intended as "a convenient reference list adapted to the sportsman's needs without compelling him to wander among a mass of useless matter." Judged by this standard the author has apparently prepared a handy book for the intelligent sportsman, whereby he may in most

¹ The Game Birds | of North America | A Descriptive Check-List | By | Frank A. Bates | President "Boston Scientific Society," and formerly | Associate Editor "Ornithologist and Oologist." | Illustrated | Boston | Bradlee Whidden | 1896—16mo, pp. 118.